

Title (en)
SUPERCONDUCTING MAGNET COIL ARRANGEMENT

Title (de)
SUPRALEITENDE MAGNETSPULENANORDNUNG

Title (fr)
AGENCEMENT DE BOBINES MAGNÉTIQUES SUPRACONDUCTRICES

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Abstract (en)

[origin: GB2510410A] A method for reducing gas pressure within a cryogen vessel housing a superconducting magnet during quenching comprises deliberately heating a superconducting coil to cause film boiling of cryogen in contact with a surface of the superconducting coil. The film boiling may reduce the rate of thermal transfer to the liquid cryogen below the rate without heating by reducing the contact surface area between the coil and the liquid cryogen. The heating may be performed by secondary coils of resistive wire inductively coupled and mechanically attached to the superconducting coil. The secondary coils may form closed electrical circuits whereby, in case of a quench, electrical current is induced in the secondary coils and heats the coil surface to cause film boiling. The secondary coil may be provided as an overbinding. Alternatively, the heating may be performed by a quench propagation circuit including at least one quench heater attached to the superconducting coils.

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